

10/676296
Applicant Copy

34 62 12.3 259 1 S5A1 RAT P24009 rattus norv
35 62 12.3 453 1 GATA HELPY P56114 hellobacte
36 62 12.3 1053 1 RMDH SCHPO Q10283 schizosacch
37 61.5 12.2 494 1 VGA BPAL3 P25243 bacterioph
38 61.5 12.2 524 1 SYFA MEYKA Q8475 methanopyru
39 61.5 12.2 625 1 RIGD HUMAN F33400 saccharonyc
40 61.5 12.2 712 1 CN4C HUMAN Q08493 homo sapien
41 61.5 12.2 949 1 RASC ECOLI P14376 escherichia
42 61.5 12.2 1621 1 ALCK MOUSE P97793 mus musculu
43 61 12.1 612 1 YAWD SCHPO Q10187 schizosacch
44 60.5 12.0 258 1 LLDR ECOLI P33233 escherichia
45 60.5 12.0 274 1 FFG BAEDU Q7767 haemophilus

ALIGNMENTS

RESULT 1
ARR1 ECOLI
ID ARR1 ECOLI STANDARD; PRT; 117 AA.
AC P15905;
DT 01-APR-1990 (Rel. 14, Created)
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Arsenical resistance operon repressor.
GN ARSR.
OS Escherichia coli.
OG Plasmid R773.
OC Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
OC Enterobacteriaceae; Escherichia.
OX NCBI_TaxID=562;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90174986; PubMed=2408017;
RA San Francisco M.J.D., Hope C.I., Owolabi J.B., Tisa L.S., Rosen B.P.;
RT "Identification of the metalloregulatory element of the
RT plasmid-encoded arsenical resistance operon."
RL Nucleic Acids Res. 18:619-624 (1990).
RN [2]
RP FUNCTION.
RX MEDLINE=92157859; PubMed=1838573;
RA Wu J., Rosen B.P.;
RT "The Arsr protein is a trans-acting regulatory protein."
RL Mol. Microbiol. 5:1331-1336 (1991).
RN [3]
RP METAL-REGULATION.
RX MEDLINE=93107054; PubMed=8416957;
RA Wu J., Rosen B.P.;
RT "Metalloregulated expression of the ars operon."
RL J. Biol. Chem. 268:52-58 (1993).
CC -!- FUNCTION: TRANSCRIPTIONAL REPRESSOR FOR THE ARS OPERON. ARSR IS
CC A TRANS-ACTING REGULATORY PROTEIN WHICH CONTROLS ITS OWN
CC EXPRESSION. THE REPRESSIVE EFFECT OF ARSR IS ALLEVIATED BY OXYIONS
CC OF +III OXIDATION STATE OF ARSENIC, ANTIMONY, AND BISMUTH, AS WELL
CC AS ARSENATE (AS(V)).
CC -!- SUBUNIT: Binds DNA as a homodimer.
CC -!- SIMILARITY: BELONGS TO THE ARSR FAMILY OF TRANSCRIPTIONAL
CC REGULATORS.
CC
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CC
CC EMBL: X16045; CRA34168.1; -
CC PIR: J50448; BVECAR.
CC HSSP: P30340; 1SMT.
CC InterPro: IPR001845; HTH_ArsR.
CC Pfam: PF01022; HTH_5; 1.
CC PRINTS: PR00778; HTHARSR.
CC
CC SMART: SM00418; HTH_ArsR; 1.
CC PROSITE: PS00946; HTH_ArsR_FAMILY; 1.
CC Plasmid; Arsenical resistance; Transcription regulation; Repressor;
CC DNA-binding
CC DNA BIND 33 52 H-T-H MOTIF (POTENTIAL).
CC SEQUENCE 117 AA; 12999 MW; 4E2D132F1P011AF6 CRC64;
CC
CC Query Match 88.3%; Score 447; DB 1; Length 117;
CC Best Local Similarity 87.6%; Pred. No. 5.7e-42;
CC Matches 85; Conservative 5; Mismatches 7; Indels 0; Gaps 0;
CC
CC

SMART: SM00418; HTH_ArsR; 1.
PROSITE: PS00846; HTH_ArsR_FAMILY; 1.
Plasmid; Arsenical resistance; Transcription regulation; Repressor;
DNA-binding.
FT DNA BIND 33 52 H-T-H MOTIF (POTENTIAL).
SQ SEQUENCE 117 AA; 13198 MW; 1F0D10766E4FD886 CRC64;

Query Match 100.0%; Score 506; DB 1; Length 117;
Best Local Similarity 100.0%; Pred. No. 2e-48;
Matches 97; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MQLTLPQLFKNLSDETRIGVILLREMGELCVCDLCMALDOSQPKISHLAMLRESGIL 60
DB 1 MQLTLPQLFKNLSDETRIGVILLREMGELCVCDLCMALDOSQPKISHLAMLRESGIL 60
QY 61 LDRKQKQVHYELSHIPSRAQIIIEQAWLSQDDVQ 97
DB 61 LDRKQKQVHYELSHIPSRAQIIIEQAWLSQDDVQ 97

RESULT 2
ARR2 ECOLI STANDARD; PRT; 117 AA.
AC P52144;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Arsenical resistance operon repressor.
GN ARSR.
OS Escherichia coli.
OG Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
OC Enterobacteriaceae; Escherichia.
OX NCBI_TaxID=562;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96275894; PubMed=8674982;
RA Bruhn D.F., Li J., Silver S., Roberto F., Rosen B.P.;
RT "The arsenical resistance operon of IncN plasmid R46."
RL FEMS Microbiol. Lett. 139:149-153 (1996).
RN [2]
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RP EXPRESSION. THE REPRESSIVE EFFECT OF ARSR IS ALLEVIATED BY OXYIONS
RP OF +III OXIDATION STATE OF ARSENIC, ANTIMONY, AND BISMUTH, AS WELL
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RP
RP EMBL: U38947; ARB09624.1; -
RP HSSP: P30340; 1SMT.
RP InterPro: IPR001845; HTH_ArsR.
RP Pfam: PF01022; HTH_5; 1.
RP PRINTS: PR00778; HTHARSR.
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RP Matches 85; Conservative 5; Mismatches 7; Indels 0; Gaps 0;
RP
RP

unf nf